

## BIOGRAPHICAL SKETCH

**NAME:** Jane Ellen Simmons

**POSITION TITLE:** Toxicologist

### EDUCATION/TRAINING

Institution	Degree	Year	Field of Study
UNC-Chapel Hill, NC	B.S.	B.S.	Zoology
School of Public Health, UNC-Chapel Hill, NC	M.S.P.H.	M.S.P.H.	Envrn. Manag. & Prot.
School of Public Health, UNC-Chapel Hill, NC	Ph.D.	Ph.D.	Toxicology

### PROFESSIONAL EXPERIENCE:

1984-1986 National Research Council Resident Research Associate, U.S. EPA, RTP, NC

1986-Present Toxicologist, NHEERL, U.S. EPA, RTP, NC

1992-Present Assistant (92-2002)/Associate (2003) Adjunct Professor, School of Public Health, UNC-CH

### PROFESSIONAL SOCIETIES:

Diplomate, American Board of Toxicology, 1991; Recertification, 1996, 2001

Editorial Board, Journal of Toxicology and Environmental Health, 1995 - Present

Society of Toxicology, NC Chapter of the Society of Toxicology

### SELECTED AWARDS AND HONORS (since 2001)

U.S. EPA Scientific and Technological Achievement Award, Level III, 2001

U.S. EPA Silver Medal, 2002

Risk Assessment Specialty Section, SOT, 'Top 10' Paper for Demonstrating a Risk Assessment Application', 2004

U.S. EPA Scientific and Technological Achievement Award, Level II, 2004

Risk Assessment Specialty Section, SOT, 'Top 10 Abstract', 2005

Risk Assessment Specialty Section, SOT, Best Paper of the Year Award, 2006

### SELECTED INVITED LECTURES/SYMPOSIA (Since 2001)

Application of Technology to Chemical Mixtures, 'Development of a Research Strategy for Integrated Technology-Based Toxicology Studies on Drinking Water Disinfection ByProducts', January, 2001.

Microbial/Disinfection ByProducts Health Effects Symposium, 'Toxicological and Chemical Evaluation of Alternative Disinfection Treatment Scenarios', March, 2001.

International Conference on Chemical Mixtures, 'Component-Based and Whole-Mixtures Assessments in Addressing the Toxicity of the Unidentified Fraction of Complex Mixtures', September, 2002.

Society of Toxicology Cumulative Risk Workshop, Designing Studies and Collecting Data Useful for Cumulative Risk Assessment, March, 2003.

Toxicology and Risk Assessment Conference, 'Methods and Techniques for Dealing with the Unidentified Fraction Of Complex Mixtures', April, 2003.

Toxicology and Risk Assessment Conference, 'Moving From External Exposure Concentration to Internal Dose: Duration Extrapolation Based on PBPK Derived Estimates of Internal Dose', April, 2004.

CIIT/CCC Joint Meeting, Exploring the Current Science on Disinfection ByProducts (DBPs), 'A Mixtures Approach to Understanding the Health Consequences of DBP Exposure', 2004.

Office of Water, U.S. EPA, 'Integrated DBP Research', March, 2004.

SOT Contemporary Topics in Toxicology, 'Experimental Design', Feb., 2005.

American Water Works Association, 'Understanding the Toxicology of Disinfection ByProduct Mixtures Through Defined Mixture and Complex Mixture Research' and 'Disinfection ByProduct Toxicity: A Complex Mixture Problem that Changes with Disinfectant', June, 2005

### SELECTED ASSISTANCE/LEADERSHIP TO THE SCIENTIFIC COMMUNITY:

Binary Weight of Evidence Workgroup of ATSDR, 2001-present.

Steering Committee, International Conference on Chemical Mixtures, September 10-12, 2002, Atlanta, GA  
SOT Mixtures Taskforce, 2004 – 2006.

Organizing Committee, International Conference on Design Epidemiology Studies for Chloramination Water Treatment, 2004-2005.

Chair, Toxicology Session, International Meeting – How to Design Epidemiology Studies for Chloramination Water Treatment, June, 2005

## SELECTED ASSISTANCE/LEADERSHIP PROVIDED TO THE AGENCY:

Human Health Risk Assessment Implementation Planning Team, 2000-present.

Co-Coordinator, Limits of Additivity Project Plan, 2000-present.

Lead, Integrated Cross-ORD DBP Mixtures Research Program, 1999-present.

Topic Co-Lead, Aggregate and Cumulative, ORD BOSC Review, 2005

Organizing Committee, SOT Contemporary Topics in Toxicology, 204-2005

## SELECTED PUBLICATIONS (since 2001)

1. Simmons, J. E., Teuschler, L. K., Gennings, C. 2001. The Toxicology of Disinfection By-Products: Methods for Multi-Chemical Assessment, Present Research Efforts and Future Research Needs. In: Microbial Pathogens and Disinfection By-Products in Drinking Water: Health Effects and Management of Risks. ILSI Press, pp: 325-340.
2. Evans, M. V., Boyes, W. K., Simmons, J. E., Litton, D. K. and Easterling, M. R., A Comparison of Haber's Rule at Different Ages Using a PBPK Model for Chloroform in Rats. *Toxicology*, 2002, 176(1-2):11-23.
3. Richardson, S. D., Simmons, J. E., and Rice, G. DBPs: The Next Generation. *Environmental Science and Technology*, 2002, 36(9):197A-205A.
4. Simmons, J. E., Boyes, W. K., Bushnell, P. J., Raymer, J., Limsakun, T., McDonald, A. and Evans, M.V., A Physiologically-Based Pharmacokinetic Model for Trichloroethylene with Specificity for the Long-Evans Rat. *Toxicological Sciences*, 2002, 69:3-15.
5. Simmons, J. E., Richardson, S. D., Speth, T., Miltner, R. J., Rice, G., Schenck, K. and Teuschler, L., K., Development of an Research Strategy for Integrated Technology-Based Toxicology Studies on Drinking Water Disinfection ByProducts. *Environmental Health Perspectives*, 2002, 110 (Supplement 6): 1013.1024.
10. Meadows, S. L., Gennings, C., Carter, W. H., Jr., Simmons, J. E. Analysis of Mixtures of Drugs/Chemicals Along a Fixed Ratio Ray Without Single Chemical Data to Support an Additivity Model. *Journal of Agricultural, Biological and Environmental Statistics*, 2004, 9(4):500-514.
11. Teuschler, L. K., Simmons, J. E. Approaching the Toxicity of Disinfection By-Products in Drinking Water as a Mixtures Problem. *Journal of the American Water Works Association*, 2003, 95(6): 13-138.
12. Boyes, W., K., Bercegeay, M., Ali, J. S., Krantz, T., McGee, J., Evans, M., Simmons, J. E. Dose-Based Duration Adjustments for Inhaled TCE on Rat Visual Function. *Toxicological Sciences*, 2003, 76(1): 121-130.
13. Simmons, J. E., Teuschler, L. K., Gennings, C., Speth, T. F., Richardson, S. D., Miltner, R. J., Narotsky, M. G., Schenck, K. D., Hunter, E. S. III, Hertzberg, R. C. , Rice, G., Component-Based and Whole-Mixture Techniques for Addressing the Toxicity of Drinking-Water Disinfection-ByProduct Mixtures. *Journal of Toxicology and Environmental Health Part A*, 2004, 67:741-754.
14. Casey, M., Gennings, C., Carter, W. H., Jr., Moser, V. C , Simmons, J. E., Detecting Interaction(s) and Assessing the Impact of Component Subsets in a Chemical Mixture Using Fixed-Ratio Mixture Rays Designs. *Journal of Agricultural, Biological and Environmental Statistics*, 2004, 9(3):339-361.
15. Meadows, S. L., Gennings, C., Carter, W. H., Jr., Simmons, J. E. Analysis of Mixtures of Drugs/Chemicals Along a Fixed Ratio Ray Without Single Chemical Data to Support an Additivity Model. *Journal of Agricultural, Biological and Environmental Statistics*, 2004, 9(4):500-514.
16. Casey, M., Gennings, C., Carter, W. H., Jr., Moser, V. C. and Simmons, J. E., Ds-Optimal Designs for Studying Combinations of Chemicals Using Multiple Fixed-Ratio Ray Experiments. *Environmetrics*, 2005, 16:129-147.
17. Simmons, J. E., Evans, M. V. and Boyes, W. K., Moving From External Exposure Concentration to Internal Dose: Duration Extrapolation Based on Physiologically-Based Pharmacokinetic Derived Estimates of Internal Dose, *Journal of Toxicology and Environmental Health Part A*, 2005, 68:927-950.
18. Moser, V. C., Casey, M., Hamm, A., Carter, W.H., Simmons, J. E., Gennings, C., Neurotoxicological and Statistical Analyses of a Mixture of Five OP Pesticides. *Toxicological Sciences*, 2005, 86:101-115.
19. Boyes, W. K., Evans, M. V., Eklund, C., Janssen, P. Simmons, J. E. Duration Adjustment of Acute Exposure Guideline Level Values for Trichloroethylene Using a Physiologically-Based Pharmacokinetic Model. *Risk Analysis*, 2005: 25:677-86.
20. Boyes, W. K., Bercegay, M., Krantz T., Evans. M. V., Benignus, V., Simmons, J. E. Momentary Brain Concentration of TCE Predicts the Effects of on Rat Visual Function. *Toxicological Sciences*, 2005 87:187-196.
21. Crofton, K. M., Craft, E. S., Hedge, J. M., Gennings, C., Simmons, J. E., Carchman, R. A., Carter, W. H. Jr., and DeVito, M. J., Thyroid Hormone Disrupting Chemicals: Evidence for Dose-Dependent Additivity and Synergism, *Environmental Health Perspectives*, 2005, 113:1549-1954.
22. Rice, G., Teuschler, L. K., Simmons, J. E. and Hertzberg, R. C. 2005. Mixtures, Toxicology and Risk Assessment, *Encyclopedia of Toxicology*, Second Edition, Ed., Wexler, P., Elsevier, Oxford, England, pp. 120-123.